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Paper Abstracts

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Scleral lens prescribing trends in children in the Netherlands

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Purpose: To evaluate scleral lens characteristics and prescribing trends in children in a large specialty contact lens practice in the Netherlands.

Method: In this retrospective study, data of scleral lens orders between 2016 and 2022 of children ≤ 18 years were analysed and compared to adults. Patient demographics, lens design, parameters and indication were analysed. One lens order per eye per year was analysed. Scleral lenses were fitted using the Visser philosophy with diagnostic trial sets.

Results: 680 scleral lenses of 299 children were evaluated and compared to 26.750 lens orders in 6.336 adults. Median age of the children at the time of the initial lens order was 16 years (range 3-18) and 64.2% was male.

Scleral lens diameter was statistically significant smaller in children versus adults ($P < 0.001$), 16.8 ± 1.3 mm versus 17.6 ± 1.8 mm. Sagittal height was significantly lower in children versus adults ($P < 0.001$), 3.6 ± 0.5 mm versus 3.9 ± 0.6 mm, and back curve radius (BCR) was significantly flatter in children versus adults ($P < 0.001$), 8.5 ± 0.2 mm versus 8.4 ± 0.3 mm. The medical indication was keratoconus in 60.5% of children versus 54% in adults, while keratoplasty and dry eyes are more prevalent in adults compared to children (0.9% versus 13% and 1.6% versus 9.2%, respectively).

Conclusions: Scleral lenses can be successfully fitted in children. The significant differences in lens parameters in children compared to adults, including diameter, sagittal height and BCR, emphasize the need for customized SL selection and fitting strategy to optimize visual outcomes and ocular health in children.

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